DIPOTASSIUM 5'-INOSINATE

Prepared at the 29th JECFA (1985), published in FNP 34 (1986) and FNP 52 (1992). Metals and arsenic specifications revised at the 57th JECFA (2001). A group ADI 'not specified' for inosinic acid and its Ca, K & Na salts, was established at the 29th JECFA (1985)

SYNONYMS Potassium inosinate, potassium 5'-inosinate, INS No. 632

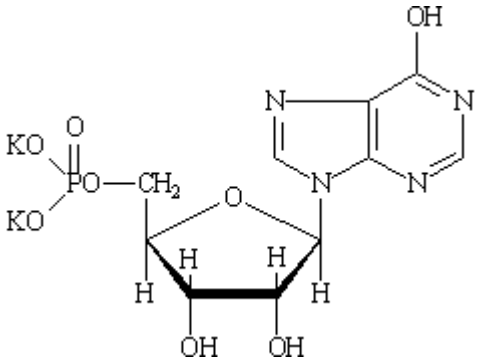
DEFINITION

Chemical names: Dipotassium inosine-5'-monophosphate

C.A.S. number: 20262-26-4

Chemical formula: $C_{10}H_{11}K_2N_4O_8P$

Structural formula:



Formula weight: 424.39

Assay: Not less than 97.0% and not more than 102.0% on the anhydrous basis

DESCRIPTION Odourless, colourless or white crystals, or a white crystalline powder

FUNCTIONAL USES Flavour enhancer

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4): Freely soluble in water; practically insoluble in ethanol

Spectrophotometry (Vol. 4): A 1 in 50,000 solution of the sample in 0.01 N hydrochloric acid exhibits an absorbance maximum at 250±2 nm. The ratio A250/A260 is between 1.55 and 1.65, and the ratio A280/260 is between 0.20 and 0.30.

Test for potassium (Vol. 4): Passes test

Test for ribose (Vol. 4): Passes test

Test for organic phosphate (Vol. 4): Passes test
Test 5 ml of a 1 in 20 solution

PURITY

Water (Vol. 4)	Not more than 10% (Karl Fischer Method)
pH (Vol. 4)	7.0 - 8.5 (1 in 20 soln)
Related foreign substances (Vol. 4)	Chromatographically not detectable Test 1 µl of a 1 in 200 soln
Lead (Vol. 4)	Not more than 1 mg/kg Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, “Instrumental Methods.”

METHOD OF ASSAY

Weigh accurately about 0.5 g of the sample, dissolve in and make to 1,000 ml with 0.01 N hydrochloric acid. Take 10 ml of this solution and dilute with 0.01 N hydrochloric acid to 250 ml. Determine the absorbance A of the solution in a 1-cm cell at the wave length of 250 nm using 0.01 N hydrochloric acid as the reference. Calculate the content of $C_{10}H_{11}K_2N_4O_8P$, in % in the sample by the formula:

$$\frac{A}{286.5} \times \frac{250,000}{\text{weight of sample (mg)}} \times \frac{100}{100 - \text{water \%}} \times 100$$